



# Office Action Summary

Application No.

08/796,752

Applicant(s)

ARAI, KOJI

Examiner

Phuongchau Ba Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3-5,8,9,11,12,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5,8,9,11 and 12 is/are allowed.
- 6) ☒ Claim(s) 22-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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*Claim Rejections – 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 22–23 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura (5,400,024).

Regarding claim 22:

Nishimura discloses in figure 1 a communication method for a radio LAN system, comprising:

receiving (at the input port of mobile communication exchange station 1 from PSTN or ISDN) an input signal (64 kbps---is inherent a TDM signal from a plurality base stations, which are not shown, in the PSTN or ISDN network via the Mobile Communication Exchange station, as terminal unit signal) obtained

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by time-multiplexing a plurality of signals (11.2 kbps) to be sent to a plurality of terminals;

determining (by data multiplexing and separating circuit 21) a terminal-unit signal to be sent to a corresponding terminal for each of a plurality of time slots of the input signal {col.2, lines 14-18};

time-divisionally dividing (separating) each terminal-unit signal (64 kbps at input port of data multiplexing and separating circuit 21) into first N signals (64 kbps at output ports of data multiplexing and separating circuit 21) within a corresponding time slot;

converting (by audio signal processing apparatus 22a-22m) the first N signals (64 kbps) into second N signals (11.2 kbps) having a transmission-rate lower than that of the first N signals,

providing (by the output ports of the data multiplexing and separating circuit 23) the second N signals (11.2 kbps) separately to a plurality of base stations (3a-3n); and

converting (by data multiplexing and separating circuit 23) each of the second N signals (11.2 kbps) into a plurality of radio signals (output signals

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from each base station 3a-3n) and transmitting each of the plurality of radio signals from an antenna (4a) of each of the base stations (3a) to respective terminals (5) {col.2, lines 34-40}.

**Regarding claim 23:**

Nishimura discloses an apparatus for a radio LAN system, comprising:

a first unit (input port of mobile communication exchange station 1) receiving an input signal (64 kbps ---is inherent a TDM signal from a plurality base stations, which are not shown, in the PSTN or ISDN network via the Mobile Communication Exchange station, as terminal unit signal) obtained by time-multiplexing a plurality of signals to be sent to a plurality of terminals;

a second unit (by data multiplexing and separating circuit 21) determining a terminal-unit signal to be sent to a corresponding terminal for each of a plurality of time slots of the input signal {col.2, lines 14-18};

a third unit (data multiplexing and separating circuit 21) time-divisionally dividing each terminal-unit signal (64 kbps from PTSN or ISDN) into first N signals (64 kbps) within a corresponding time slot;

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a fourth unit (audio signal processing circuit 22) converting the first N signals (64 kbps) into second N signals (11.2 kbps) having a transmission-rate lower than that of the first N signals;

a fifth unit (output ports from data multiplexing and separating circuit 23) providing the second N signals (11.2 kbps) separately to a plurality of base stations (3a-3n); and

a sixth unit (data multiplexing and separating circuit 23) converting each of the second N signals (11.2 kbps) into a plurality of radio signals (11.2 kbps) and transmitting each of the plurality of radio signals (11.2 kbps) from an antenna (i.e., 4a) of each of the base stations (3a-3n) to respective terminals (5){col.2, lines 34-40}.

***Claim Rejections – 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

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would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Nishimura (5,400,024).

The admitted prior art discloses in figure 1 a plurality of base stations (1-n) connecting to an ATM hub, which is connected to wiring LAN system. These base stations simultaneously transmit data received (input signal) from ATM hub to a terminal station in different frequencies ( $f_1$ - $f_n$ ) to a plurality of signals to transmit to a plurality of base stations (fig.1)

The admitted prior art does not explicitly disclose that time-divisionally dividing each terminal unit signal into first N signals within a corresponding time slot; converting the first N signals into a second N signals having a transmission rate lower than the first N signals; providing the second N signals separately to a plurality of base stations; converting each of the second N signals into a plurality of radio signals and transmitting to respective terminals.

However, in the same field of endeavor, Nishimura discloses time-divisionally dividing the input signal (64kbps signal, as terminal unit signal) into

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first N signals (64 kbps signals) at output ports of the data multiplexing and separating circuit 21. Then the divided 64kbps signals being converted into second N signals (11.2kbps) by audio signal processing circuit 22. Also, the converted signals 11.2kbps are being multiplexed into a plurality of 11.2 kbps and transmitted to a plurality of base stations (3a-3n), which later transmitting the multiplexed 11.2kbps signals to a plurality of terminals (i.e., terminal 5) {also, col.1, line 47 to col.2, lines 40}. Therefore, it would have been obvious to a skilled artisan to apply Nishimura's teaching into the admitted prior art's system, and the motivation being to fasten the data transmission by transmitting data at a low bit rate between the base station and mobile stations.

4. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Iguchi (4,977,558).

The admitted prior art discloses in figure 1 a plurality of base stations [1-n] connecting to an ATM hub, which is connected to wiring LAN system. These base stations simultaneously transmit data received (input signal) from ATM



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hub to a terminal station in different frequencies ( $f_1$ – $f_n$ ) to a plurality of signals to transmit to a plurality of base stations (fig.1)

The admitted prior art does not explicitly disclose that time-divisionally dividing each terminal unit signal into first N signals within a corresponding time slot; converting the first N signals into a second N signals having a transmission rate lower than the first N signals; providing the second N signals separately to a plurality of base stations; converting each of the second N signals into a plurality of radio signals and transmitting to respective terminals.

However, in the same field of endeavor, Iguchi discloses a serial/parallel converting means 11 for converting the input multiplexing signal into a parallel signals, and a latch means 16 for demultiplexing signals generates a number of basic signal outputs {fig.4} thus the rate of the basic signal outputs inherently have a lower rate than the basic signal inputs (which are before being demultiplexed by the latch means 16—emphasis added, this is a common practice). Therefore, it would have been obvious to an artisan to apply Iguchi's teaching into the admitted prior, and the motivation being to fasten the data

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transmission by transmitting data at a low bit rate between the base station and mobile stations.

*Allowable Subject Matter*

5. Claims 3-5, 8-9, 11-12 are allowable over prior art of the record.

*Response to Arguments*

6. Applicant's arguments filed 2-6-03 have been fully considered but they are not persuasive.

A/. Applicant argued that each of the divided signals containing a different portion of the terminal unit signal {page 2, remarks}.

In reply, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., each of the divided signals containing a different portion, i.e., as cited example with A1-1, A1-2, A1-3 and A1-1 containing the beginning part of terminal unit signal A1, A1-2 containing the middle part terminal unit signal, A1-3 containing the end part of terminal unit signal) are

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not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

B/. Applicant argued that Iguchi and Nishimura do not disclose subdividing each channel signal.

In reply, applicant is directed to the claimed language wherein "divided each terminal signal into first N signals and converting first N signals to second N signals having a lower rate, and providing to a plurality of base station" which are transmitting to respective terminal unit. Therefore, Iguchi discloses the input signal (a terminal unit signal which is the signal to be sent to the terminal unit) is subdivided to a plurality of signals by demultiplexing device 11 and being changed to lower rate by latch part 6. Also, Nishimura does teach dividing each terminal (input signal) into first N signals and converting the first N signals to second N signals having a lower rate, and transmitting to a plurality of base stations, which are transmitted to terminal units from base stations (fig.1, Nishimura)

C/. Applicant argued that the multiplexed data are demultiplexed into not the original A, B, C but into data A1, A2, A3, B1, B2, etc, which are smaller than each original data A, B, C.

In reply, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the multiplexed data are demultiplexed into not the original A, B, C but into data A1, A2, A3, B1, B2, etc, which are smaller than each original data A, B, C) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the

advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 703-305-0093. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 703-308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.



Phuongchau Ba Nguyen  
Examiner  
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April 9, 2003

